REMARKS

Claims 1-5, 11-15, 26, 28 and 30-32 and 34-38 are all the claims pending in the application.

Statement of Substance of Interview

Please review and enter the following remarks summarizing the interview conducted on September 8, 2011. An Examiner's Interview Summary Record (PTO-413) was received dated September 13, 2011.

During the interview, the rejections of the claims under 35 U.S.C. § 112, first paragraph and the rejections of the claims under 35 U.S.C. § 103(a) in view of Ichinose and Hebiguchi et al. (US 7,301,517) were discussed. The undersigned explained the support for the claims using FIG. 11 of the specification. The Examiner suggested that the application provide a physical explanation for each term used in the recited equations. No agreement was reached.

It is respectfully submitted that the instant STATEMENT OF SUBSTANCE OF INTERVIEW complies with the requirements of 37 C.F.R. §§1.2 and 1.133 and MPEP §713.04.

It is believed that no petition or fee is required.

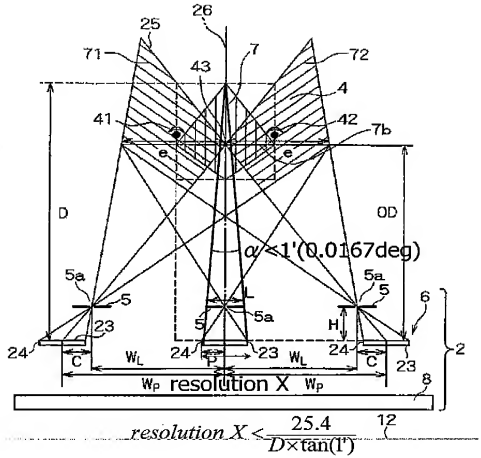
Claim Rejections - 35 U.S.C. § 112, First Paragraph

Claims 1-5, 11-15, 26, 28, 30-32 and 34-38 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

Specifically, the Examiner contends that the specification fails to teach how the three dimensional display is capable of facilitating the display to have a "number of pixels per section per inch (X)" to have the relationship of $X > 25.4/ D*\tan(1')$.

In response, Applicants point to the support for the claimed features. Based on FIG. 5 of US application, the relationship of an image resolution X and a three-dimensional visible range D is described.

FIG. 5



Each of parameters are described below.

A right eye area 71: An area where the light from all pixels 23 for the right eye reaches (lines 15-16 on page 19 of the English specification).

A left eye area 72: An area where the light from all pixels 24 for the left eye reaches (lines 16-18 on page 19 of the English specification).

The right eye area 71 and left eye area 72 are areas that are unique to a three-dimensional image display device determined by a relationship between the pixels for the right and left eyes and the optical unit (a parallax barrier 5) and/or the like.

A three-dimensional visible range 7: An area that a midpoint 43 of the right eye 41 and left eye 42 of a viewer may be located when the right eye 41 of the viewer is located within the right eye area 71 and the left eye 42 of the viewer is located within the left eye area 72 (line 26 on page 19 to line 1 on page 20 of the English specification). The three-dimensional visible range 7 is an area unique to a three-dimensional image determined such as by the right eye area 71 and left eye area 72.

A maximum observation distance D: A distance between the display panel 6 and the furthest point from the display panel 6 regarding the three-dimensional visible range 7 (line 24 on page 21 to line 3 on page 22 of the English specification). In other words, the maximum observation distance ID may be obtained by the three-dimensional mine 7 of the three-dimensional image display device.

With respect to the formula X>25.4/D*tan(1') described in the claims, the definition X is determined by the unique maximum observation distance D that the three-dimensional image display device has; thus, the definition of the formula is deemed definite.

The Examiner further alleges:

- "With regard to newly submitted claims 32-38, the specification further fails to give support for X:Y=2:1."

In response, Applicants note that this feature is supported by, at least, Paragraphs [0060] and [0094] of the U.S. published application. These portions disclose a three-dimensional image display device in which a definition in a vertical direction (Y in claims) is set to 230 dpi and a

definition in a horizontal direction (X in claims) is set to 115 dpi. Thus, the feature "X:Y=1:2" as recited in claims 32 and 38 is supported by the present specification.

Thus, Applicants submit the present rejection is in error for at least this reason.

Claim Rejections - 35 U.S.C. § 103(a)

Claims 1, 3, 11-13, 14, 30, 32-34 and 36-38 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ichinose et al. (US 4,987,487) in view of Hebiguchi et al. (US 7,301,517).

In the rejection, the Examiner relies on Ichinose as disclosing most of the features recited in the rejected claims, but appears to concede that Ichinose fails to disclose the recited viewing distance and resolution relationship recited in claim 1.

Specifically, Ichinose fails to disclose:

> the distance D and the definition X are set to satisfy the equation below, so that viewing angles of images of pixel sections incident to the right and left eyes are smaller than or equal to tan (1'):
>
> $X \geq 25.4/ D*tan (1')$.

However, in the rejection the Examiner, without any logical rationale, modifies Ichinose by determining the smallest separation between two adjacent image pixels sections that is discernable by the human eye, to arrive at the claimed features. Most notably, the Examiner makes this modification absent any support in the prior art. The only basis for making such a modification is taken from the current application. Also, the Examiner attempts to rely on Hebiguchi to support the rejection.

Failure To Establish Prima Facie Obviousness

More specifically, Applicants submit the Examiner has failed to establish prima facie obviousness for failing to establish *prima facie* obviousness because the Examiner applies a

reference Ichinose, which merely contemplates which pixel displays a left image or a right image in order to compensate for the movement of a viewer. Moreover, the Examiner's reliance on Hebiguchi as disclosing the number of pixel sections per inch "X" is unsupported.

1. Ichinose Fails to Contemplate Changing the Resolution Based on the Position of a Viewer

Ichinose does not disclose any particular pitch with respect to the minimal angular separation (1/60 of a degree or one minute) which is discernable by a viewer. Rather, Ichinose is directed to changing which pixels display a right image or a left image to compensate for the right, left, forward and backward movement of a viewer. (col. 8, lines 22-48). Thus, Ichinose's intended use is to permit stereoscopic viewing by a viewer moving side to side and away from the display apparatus. Ichinose does not change the pixel pitch when the viewer moves closer to or further from a display, rather, Ichinose merely changes which pixels display the left and right images when a viewer moves side to side. To accomplish this adjustment, Ichinose detects the position of a moving body and adjusts the pixel positions for each of the left and right eye so that a proper stereoscopic image may be viewed. (Abstract, col. 1, line 58 through col. 2, line 20). Consequently, pixels displaying the left image may be changed so as to display the right image to maintain stereoscopic viewing. (col. 3, lines 45-55).

In fact, it is well known that televisions/display monitors come in a multitude of display resolutions with the differences between resolutions being discernable by the human eye, i.e., high definition versus standard television viewing. The rationale that the resolution must be greater than that discernable by the human eye for an observer to be viewed is wholly unsupportable.

2. Objective Evidence of Non-Obviousness of Increasing the Resolution

Further, objective evidence provided by the Applicants show that these allegedly obvious resolutions were not obvious or even desired. Specifically, the Examiner insists that raising the definition of an image display apparatus so that it is greater than the resolution by eyesight would have been obvious to one skilled in the art. However, pages 120 and 121 of Reference 1 (Vision Vol. 17, No. 2, pp. 113-122, (2005)) (Submitted with the Amendment filed January 14, 2008) discloses:

> [I]f the results of the study introduced this time are correct, currently where image quality has been improved with the advances in image technology, images have been improved to appear more natural in many points, which is preferable, however, in so far as a stereoscopic image is concerned, it is doubtful whether an improvement in image quality (opposite to defocusing) increases the inconsistency between the accommodation and vergence to easily cause fatigue. In at least an accommodative reaction, a more accurate alignment with the screen surface would have become necessary. However, whether this leads to fatigue is still unknown. It seems that some researchers have such a sense that supports the relationship, however, since we have not asked many researchers about this, its examination will become a challenge in the future.

(emphasis added).

Thus, as shown by this reference, as far as three-dimensional images are concerned, a higher definition was not considered to be preferable, obvious or even desired. The reason is that a higher definition of three-dimensional images was believed to increase the inconsistency between the accommodation and vergence, which may cause fatigue.

Conversely, the Applicants eagerly conducted experiments and research in an effort to improve the visibility of three-dimensional images and reduce the fatigue of the viewer, and they proposed a lower limit of definition for three-dimensional images that could have been a solution to these problems. In this way, the Applicants discovered that definition is more important for three-dimensional images than for two-dimensional images. In a three-dimensional image, binocular fusion is interrupted by differences between two images, so observers become more

sensitive to such differences in three-dimensional image display than in two-dimensional image display. For example, when the display definition is low, the spatial frequency for display decreases, and in turn differences between two images increase. As a result, binocular fusion is interrupted, and the visibility of three-dimensional images decreases significantly.

Thus, Applicants submit modifying the display of Ichinose to produce an image having no less resolution than the eyesight of a viewer was not obvious or even desired by those of ordinary skill in the art. Therefore, not only is there no support for the Examiner's modification in the applied reference, this above noted reference "Vision Vol. 17," teaches that the understanding even two years after the filing of the present application, it was not considered beneficial or obvious to increase the resolution of a three-dimensional display as claimed.

3. Examiner's Modification Improper

The Examiner alleges that Ichinose discloses many of the features recited in claims 1 and 14, but further relies on: (1) unsupported "geometry" based on Applicants' own disclosure; and (2) a further unsupported modification based on the contention that a minimum angular separation of eyesight of 1.0 or one minute is well known. As noted above, the Examiner has failed to articulate a valid reason as to why one of ordinary skill in the art would modify the pixel pitch in view of the minimum angular separation of the eyesight of a human, especially when the required pitch resolution would change when the viewer moves closer to or further from the display screen.

Within the rejection the Examiner allegedly derives the mathematical relationship $1/L>25.4/(DIS*\tan(a))(dpi)$ based on the disclosure of Ichinose. However, the Examiner concedes that Ichinose fails to teach the recited equation $X\ (dpi) \geq 25.4/(D*0.000291)$. In fact, Ichinose fails to even mention a value which corresponds to X (dpi) dots per inch in relation to

the distance D. More specifically, Ichinose fails to even establish any method for calculating how the pixel pitch is determined. Rather, Ichinose is directed to determining the pitch of each lenticular lens within a lenticular lens sheet based on a given pixel pitch array size.

To compensate for Ichinose's deficiencies, the Examiner alleges that it is well-known in the art that general eyesight is 1.0, which means a minimum angular separation, is 1/60 degree or one minute. *See* Office Action, p. 6. However, without a valid rationale for doing so, the Examiner plugs this value into the equation $1/L>25.4/(DIS*\tan(a))(dpi)$ to arrive at $X \geq 25.4/(D*0.000291)$ in a fashion similar to that disclosed only in the present specification.

However, the resulting equation calculated by the Examiner is based on hindsight gleamed from the present specification and is in contrast to what was understood in the cited Reference 1. There is simply no support within Ichinose or any other applied reference which supports the Examiners' combination of the minimum angle of separation to determine the recited equation $X (dpi) > 25.4/(D*0.000291)$. Nothing, other than hindsight gleamed from the present specification, would lead one of ordinary skill in the art to so modify Ichinose. As noted above Reference 1 teaches away from such a modification and the Examiner's purported rationale for making the modification.

Applicants submit that the Examiner fails to provide a valid reason to combine the minimum angle of separation with the derived mathematical expression as arranged in the claims. As a basic requirement of obviousness, the Examiner must articulate some rational basis, found either in the references themselves or in the knowledge generally available to one or ordinary skill in the art, to combine the teachings as the Examiner attempts. MPEP §2143. Furthermore, the reason to combine cannot come only from Applicant's disclosure. *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991).

However, the Examiner has failed to provide any such reason to combine. Furthermore, the only rational basis to make the combination attempted by the Examiner comes from the Applicants' own disclosure. Specifically, the present Application describes the study and discovery of the unrecognized problem related to the definition of a three-dimensional image and viewer fatigue. (specification, page 8, lines 15-20). As a result of this study, Applicants discovered that the visibility of the three-dimensional images had drastically reduced when the viewer significantly lacks perception of the corresponding feature points in the right and left images, which cause the fatigue. (specification, page 9, lines 2-7) Further, the Applicants discovered that to completely prevent the lack of feature points, the definition of the three-dimensional image need to be no less than the resolution by the eyesight of a viewer. (specification, pages 9 and 10).

Thus, Applicants recognized the problem of viewer fatigue and resolve this by combining the viewing geometries with the minimum viewing angle. While the Examiner appears to derive similar equations within the rejection, Applicants submit that this is a result of hindsight analysis based on the present specification as the Examiner has failed to provide any rational basis to support the derived combination.

Hebiguchi

On page 6 of the Office Action, the Examiner contends that Hebiguchi discloses a display apparatus having a pixel pitch of 200 pixels per inch. However, Hebiguchi fails to disclose any particular viewing distance. Thus, the value X cannot be calculated. Improperly, the Examiner contends that the distance 500 mm is a standard viewing distance. This is wholly unsupported. Instead, this distance equates to 19 inches. There is simply no support that such a viewing

distance is standard. Thus, the Examiner's reliance on Hebiguchi is improper for at least this reason.

4. The Examiner's Modification is Mathematically Improper

More importantly, the Examiner misconstrues the applied references in this purported combination. Specifically, Applicants note the following errors with the Examiner's application of Ichinose:

(1) In the second paragraph of Page 5 of the Final Office Action, the Examiner provides:

> As demonstrated by Figure 8, the smallest separation between the two adjacent image pixel sections that can be resolved by the eyes so that one image from the first pixel to be directed to the left eye and the other image from the adjacent second pixel section to the right eye is indicated in Figure 8 as L. And the definition of the pixel section is defined as 1/L. From simple geometry one can calculate the definition of the pixel section as the following . . .

As an initial matter, Ichinose fails to support the Examiner's modifications. Indeed, logical analysis set forth below and based on Ichinose shows the Examiner's improper modifications.

First, Ichinose (Fig. 8) describes an irradiation range of light emitted from a pixel and passed through the center of a lenticular lens (in practice, light passed through a part of the lenticular lens other than the center thereof also reaches the right or left eye). A part of the light described in Fig. 8 enters a right or left eye at a predetermined position.

The examiner uses irradiation angles a and b, which are described in Fig. 8, based on a geometrical relationship to produce the following equation:

$L+e = (f'+D)\tan(a) = D''\tan(a) \cdots (1)$

Subtracting e from the left side of the equation yields the following equation:

$L < D''\tan(a) \cdots (2)$

Equation (2) is an inequality produced by subtracting e, which is a positive number, from one side of equation (1). This transformation of equation (1) into equation (2) does not have any particular significance. This equation only signifies that the two sides of the equation are not equal due to subtracting the positive number e only from the left side of the equation.

In equation (2), as shown in Fig. 8, "a" is a numerical value that can be obtained from the pixel length D and the focal length of the lenticular lens f and is defined as follows:

$a \tan^{-1}(L/f') \cdots (3)$

Substituting the values described in Ichinose (L = 0.2 mm and f' = 1.56 mm) into equation (3) yields:

$a = 73°$.

This "a" is a value that only determines the focal length of the lenticular lens f' with respect to the pixel length L (or vice versa). When the values of L and f' are set, the value of "a" is automatically determined. Substituting the minimum viewing angle of a viewer whose eyesight is 1.0, which is 1', into "a" is erroneous. While "a" is a value that determines the focal length of the lenticular lens f' with respect to the pixel length L, "1'" is an angle with respect to the viewing angle of a pixel section incident to a right or left eye. These two values are completely different.

The significance of transforming equation (1) into equation (2) in order to yield $X \geq 25.4/(D \times \tan(1'))$, which is described in the present application, is incomprehensible from Ichinoses' disclosure. This transformation of an equation to produce an inequality by subtracting a positive number only from the left side of a geometrically obtained equation is not logically supported. Accordingly, Fig. 8 of Ichinose fails to provide a motivation to produce the equation described in the present application.

As described above, it would not have been obvious to yield the equation described in the present application in light of Ichinose. Also, Ichinose does not provide any description that suggests the equation described in the present application.

(2) In the last paragraph of Page 5 of the Office Action, there is a description "L+e=(f'*tan(a))+(D*tan(b)), for paraxial light, b=a, and tan(a) approximately equals to a in radians and tan(b) approximately equals to b in radians. And if the optical unit is a parallax barrier with slits instead of the lenticular lens, the angle a will be equal to angle b."

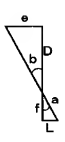
However, why L and e are added is unclear. Notably, the Examiner has failed to provide any rational basis to add L and e. Additionally, even when paraxial approximation exists, it can be said that tan(a) is approximately equal to a and tan(b) is approximately equal to b, but it cannot be said that b=a. Also, the angle of "b" is approximately 9 degrees when a=65mm and D=400mm and not on the order of minutes (one minute=1/60 degrees). Consequently, the Examiner's result here is unsupportable.

(3) There is also a description "if the optical unit is a parallax barrier with slits," however, why the discussion that assumes a parallax barrier is included when calculation of a lens is being discussed is unclear.

(4) Furthermore, there is a description "(f'+D)*tan(a)" in the 1st line of Page 6 of the Office Action, however, the reason why tan(a) remains despite the assumption that tan(a)=a is unclear. Therefore, the reason for transforming the expression as such is wholly unsupportable.

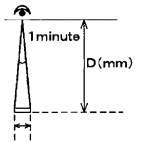
(5) Furthermore, there is a description "The definition of the pixel section (1/L)" in the 8th line of Page 6 of the Office Action, however, this is not (1/L) but, correctly, (1/2L) as described above.

(6) Furthermore, the Examiner provides, "This means the definition is 1/L>25.4(D'*tan(1')(dpi)." in the 12th and 13th lines of Page 6 of the Office Action, however, the left-hand side is not (1/L) but correctly, (1/2L) as described above. Therefore, the above inequality is unlikely to hold true. Also, with regard to (1') on the right-hand side of the above inequality, the reason why 1' (one minute) comes up here is unclear and unsupported. As described above, the Examiner argues that a=b. If so, "a" must be approximately 9 degrees as described above, and it cannot be one minute (1/60 degrees). Consequently, the Examiner application of "a" and "b" and 1 minute, is illogical. In this way, the Examiner appears to be illogically manipulating Ichinose to arrive at the claimed invention as recited in claims 25-28 and 30-31.



a=b=9degrees

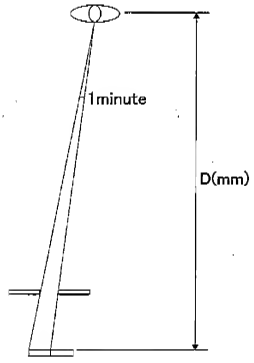
(a)



Sepatron of pixel sections=2L

(b)

Additionally, the Examiner alleges that Ichinose and the present application teach that image light from pixels focuses and crosses at the center of a lenticular lens or a slit of a parallax barrier. However, these descriptions refer to the path of light emitted from boundary areas of adjacent pixels. When a display device uses a parallax barrier that emits light and the light actually reaches a human eye, the path of the light is as demonstrated in the right figure:



The Examiner also alleges that design values of an image display device of Ichinose satisfy equation (4). However, as presented below, the image display device of Ichinose does not satisfy equation (4):

$X \geq 25.4/(D \times \tan(1')) \cdots (4)$

Next, substitution of values described in Ichinose (the stereoscopic viewing distance D = 500 mm and pixel length L = 0.2 mm) into equation (4) yields the following:

Left side of equation (4):

X = 25.4 (mm/inch)/L(0.2) (mm)

= 127 (dpi)

Right side of equation (4):

Right side = 25.4/(500 x tan(1'))

= 175 (dpi)

As evidenced by the foregoing, the image display device of Ichinose does not satisfy equation (4).

Consequently, as set forth above, because the Examiner's reading of the applied references is erroneous, and the subsequent derivations in the Office Action are not supported by any logical rationale, Applicants submit the Examiner has failed to provide the necessary objective evidence to establish a *prima facie* case of obviousness, and therefore, the rejection of claims 1, 3, 11-13, 14, 30, 32, 34 and 36-38 is in error and should be withdrawn.

Even If Combined As Suggested Not All Claim Features Disclosed

Second, even if modified as suggested by the Examiner, the applied combination of Ichinose and Hebiguichi fails to teach or suggest, at least, "wherein the pixel sections are arrayed such that a number of pixel sections per inch in the horizontal direction is configured such that a resolution of the image in the horizontal direction as projected in the three-dimensional visible range when D(mm) is defined as the distance between said display panel and a point which is most distant from said display panel within said three-dimensional visible range, the number of pixels sections per inch (X) in said horizontal direction, the distance D and the definition X are set to satisfy the equation below, so that viewing angles of images of pixel sections incident to the right and left eyes are smaller than or equal to tan (1'):

$X \geq 25.4/ D*tan (1')$," as recited in claims 1 and 14.

Specifically, Ichinose does not mention or even contemplate the resolution of the eyesight of a viewer. Rather, Ichinose is directed to producing the three-dimensional image properly to a viewer who moves left or right in a horizontal direction. In particular, Ichinose detects the binocular position of the viewer using a detection means so that the proper pixel for the left eye image is always incident on the left eye and the proper pixel for the right eye image

is always incident on the right eye. (col. 1, lines 60-67; col. 4, lines 10-23). Specifically, Ichinose discloses:

> [T[he right and left image array control circuit 25 forms a signal for controlling an array of a combined image on the display device based on a binocular position signal as an output from the binocular or head position detecting circuit 24 which detects the binocular or head position of the viewer, and applies the signal to the multiplex circuit 23 to control a combination of the binocular signals. The resultant signal is applied to the stereoscopic display device 26 to control an array of R and L pixels on the combined image 1, as shown in FIGS. 3 or 4. Therefore, the viewer can experience stereoscopic viewing even if he or she moves to the right or to the left.

(col. 5, lines 45-58).

Accordingly, Ichinose is directed to changing which pixels display a particular portion of the image in response to the left and right movement of a viewer. To the contrary, claims 1 and 14 are directed to the number of pixel sections per inch in the horizontal direction beings configured such that a resolution of the image in the horizontal direction as projected in the three-dimensional visible range is no less than the resolution of the eyesight of a viewer in order to prevent a lack of feature points. Consequently, the resolution of the eyesight of a viewer is not contemplated or mentioned in Ichinose. Further, assuming, *arguendo*, one of ordinary skill in the art would recognize the that general eyesight is 1.0, which means the minimum angular separation is one minute, even if this is combined with Ichinose, the combination fails to disclose any relationship between the "definition of the three-dimensional image in the horizontal direction" and "resolution by the eyesight of a viewer." In other words, Ichinose and the Examiner alleged well-known eyesight of a viewer, at most, would disclose the following:

(1) the resolution of the eyesight of a viewer is one minute (Examiner's contention); and

(2) changing which pixels display left and right images based on the movement of a viewer (Ichinose).

Accordingly, there is absolutely no disclosure related to the resolution of a viewer and the definition of a three-dimensional image.

Thus, because this feature is not disclosed or contemplated even if the reference is modified in view of the resolution of viewer being one minute, Applicants submit claims 1 and 14 are allowable over the suggested modification of Ichinose. Additionally, because independent claims 32 and 38 recite similar features, these claims are allowable for the same reasons set forth above. Lastly, Applicants submit claims 3, 11-13, 29-30, 34 and 36-37 are allowable, at least because of their dependency.

Further, with regard to claims 32 and 38, Applicants refer to the thesis titled "The Developmental Conditions and Challenges of SuperHigh Vision" was published by NBX. Technical Laboratories in SEMI News (2008) (a copy is submitted herewith). This article is related to a 2D display device and can be found at http://www.semi.org/cms/goups/public/documents/web_content/p043985.pdf . The following paragraph is included in this article:

> If a 50 inch size high-definition television image is seen from a distance of 2m, one pixel becomes an angle of approximately one minute. The resolution power of 1.0 human eyesight is one minute at the angle and the size of one pixel per minute is considered to be of sufficient pixel density for a person with 1.0 eyesight.

Although the article does not mention the rationale behind this idea in detail, it can be simply calculated as follows:

A. Diagonal 50 inch FHD (1920 x 1080)

B. Resolution from A: vertical 24.51 inch 1080 pieces (44.1 dpi) >>>0.0227 inch (=0.577 mm) per piece

C. Angular resolution capability from B: tan-1((0.577/2)/2000) x 2= 0.0165deg (This is equal to one minute (1/60 deg)).

Additionally, because X=25.4/(2000 x tan(1')) =43.7 dpi, it is the same as the above mentioned B.

(3) Furthermore, as in claims 32 and 38, by defining D to be 500 mm, the following effects may be achieved.

Many three-dimensional displays use binocular parallax in order to achieve binocular vision. It has been known for some time that the smaller the visual distance is in this binocular parallax, the more perception sensitivity goes up (Cf. References 2 and 3). Especially in the case of small displays as in examples of the claimed invention, it is obvious as shown in the values of the examples that when $D \leq 500$ mm, the effect is large. Thus, if taking into consideration that at the time of initial application it was not necessarily desirable to have the three-dimensional display be high definition or to have the visual distance ($D \leq 500$ mm) set to a comparatively small distance, the visibility of the three-dimensional display device described in claims 32 and 38 is much better than that of conventional three-dimensional display devices.

Reference 2: JEITA "High Realistic Sensation Seminar" 12.20, 2006

Reference 3: Chihiro MASUDA, "Three- Dimensional Display" Sangyo Tosho, p.38, 5_25, 1990.

Thus, Applicants submit the subject matter of claims 32 and 38 are patentably distinguishable for this additional reason.

Claim Rejections - 35 U.S.C. § 103(a)

Claims 2, 4, 15, 26, 28, 31 and 35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ichinose and Hebiguchi as applied to claims 1, 14 and 32 above, in further view of Isono et al. (US 5,315,377).

Because Isono, either taken alone or in combination with Ichinose, fails to compensate for the above noted deficiencies of Ichinose and Hebiguchi as discussed above, Applicants submit that claims 2, 4, 15, 26, 28, 31 and 35 are allowable by virtue of their dependency.

As described in this Reference 1 above, it is not always a matter of course that a three-dimensional stereoscopic image would preferably have a high definition. Furthermore, this Reference 1 was published in 2005, where it could not be positively stated that a three--dimensional image should preferably have a high definition even after the elapse of two years since the priority date of the present application. This is objective evidence of the prevailing sentiment at a period of time following this priority date. Applicants submit this Reference 1 is objective evidence rebutting the Examiner purported case of *prima facie* obviousness.

Moreover, only as a result of repeated diligent experiments and study of the relationship between the definition of a stereoscopic image and viewer fatigue, as described in the specification of the present application, the Applicants discovered that the visibility of the three-dimensional images is drastically reduced when the viewer significantly lacks perception of the corresponding feature points in the right and left images, which causes fatigue. Specifically, when the right and left eyes perceive images having a parallax from each other, the viewer searches for corresponding feature points. At this time, when the image significantly lacks feature points, the right and left images cannot correspond to each other, which causes viewer confusion. This confusion leads to binocular rivalry as to which of the images observed by the

right and left eyes has priority. Since a condition with binocular rivalry is an unstable condition where binocular fusion is impossible, the visibility of the three-dimensional images drastically reduces, and the viewer experiences fatigue. Therefore, for making stereoscopic viewing easy in order to reduce viewer fatigue, it is sufficient to prevent the lack of corresponding feature points in the right and left images. This allows the viewer to easily find the corresponding feature points in the right and left images, so that binocular rivalry can be prevented, and binocular fusion can consequently be easily attained.

Consequently, the above effects are enabled by the findings of the present application that "preventing a lack of feature points can reduce viewer fatigue," and these effects were not obvious as shown by reference to Reference 1.

Thus, Applicants submit the Examiner's purported combination is unsupported for these additional reasons. Therefore, claims 2, 4, 15, 26, 28, 31 and 35 are submitted to be allowable for at least this reason.

Claim Rejections - 35 U.S.C. § 103(a)

Claim 5 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Ichinose and Hebiguchi as applied to claim 1, in further view of Chikazawa (US 5,852,512).

Because Chikazawa, either taken alone or in combination with Ichinose, fails to compensate for the above noted deficiencies of Ichinose and Hebiguchi as applied to claim 1, Applicants submit claim 5 is allowable, at least by virtue of its dependency.

Claim Rejections - 35 U.S.C. § 103(a)

Claims 1, 3, 11-14, 30, 32-34 and 36-38 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Momochi (US 5,528,429) in view of Ichinose and Hebiguchi.

Because Momochi, either taken alone or in combination with Ichinose and Hebiguchi, fails to compensate for the above noted deficiencies of Ichinose and Hebiguchi as discussed above, Applicants submit claims 1 and 14 are allowable, at least for the same reasons set forth above. Additionally, Applicants submit claims 1, 3, 11-14, 30, 32-34 and 36-38 are allowable, at least by virtue of their dependency.

Claim Rejections - 35 U.S.C. § 103(a)

Claims 2, 4, 15, 26, 28, 31 and 35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Momochi (US 5,528,429) in view of Ichinose and Hebiguchi as applied to claims 1 and 14 above, and in further view of Isono (US 5,315,377).

Because Isono, either taken alone or in combination with Momochi, Ichinose and Hebiguchi, fails to compensate for the above noted deficiencies of Ichinose and Hebiguchi as discussed above with regard to claims 1, 14 and 32, Applicants submit claims 2, 4, 15, 26, 28, 31 and 35 are allowable, at least by virtue of their dependency.

Claim Rejections - 35 U.S.C. § 103(a)

Claim 5 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Momochi, Ichinose and Hebiguchi as applied to claim 1, and in further view of Chikazawa.

Because Chikazawa fails to compensate for the above noted deficiency with regard to the Momochi/Ichinose/Hebiguchi combination, Applicants submit that claim 5 is allowable, at least because of its dependency.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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